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FACTORS INFLUENCING THE MICROSPATIAL  
ZOOPLANKTON AND OXYGEN HETEROGENEITY IN  
WLOCLAWEK RESERVOIR

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During the investigations conducted in Włocławek Reservoir in the years 1980-85 considerable horizontal and vertical differentiations of physico-chemical and biological parameters were found. Highest range of changeability was concerned particularly with the oxygen amount in water and zooplankton. During calm weather differences of oxygen amounts in the surface layer of water on the extreme stations of investigated cross-section (distance about 2 km) reached  $4 \text{ mg} \cdot \text{dm}^{-3}$ . In the near-bottom layer of water (even on the shallow part of cross-section) considerably smaller amounts of oxygen were noted. Frequently amounts of oxygen were close to zero. Those same stations had shown high quantitative and qualitative changeability of zooplankton. For example carnivorous to herbivorous ratio differ on the extreme stations from 0.05 to 255.

In order to determine factors influencing this phenomenon detailed investigations of the shallow part of the reservoir were conducted during summer times of 1983-85 years. Particular attention was paid to the horizontal and vertical differentiation of oxygen and zooplankton during daily cycle. Informations obtained during the investigations were discrepant from expected homogeneity resulted from features of dam reservoir, i.e. its fluvial character and high dynamics of water.

There was shown close connection of investigated elements with the hydrological and meteorological factors - water discharge and wind.

Laboratory and in situ experiments had shown very intensive oxygen consumption by bottom deposits lifted up in result of resuspension processes. Resuspension of fine, reach in organic matter deposits during wind influenced heavy waving causes that the rate of BOD in water increases over 10 times.